February 8, 2012

FILED ELECTRONICALLY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street N.W.
Washington, D.C. 20544

Re: Notice of Written *Ex Parte* Presentation – Petition for Rulemaking RM-11640
Amendment of the Commission's Rules to Establish a Next-Generation Air-Ground Communications Service on a Secondary Licensed Basis in the 14.0 to 14.5 GHz Band

Dear Ms. Dortch:

Representatives of the Satellite Industry Association ("SIA")[1] met with Commission officials on February 7, 2013 to discuss the petition of Qualcomm, Incorporated ("Qualcomm") to establish a new air-to-ground communications service on a secondary basis in the 14.0-14.5 GHz band ("Petition"). The SIA representatives met with Michael Steffen and Renee Gregory, Legal Advisors to the Chairman; Mindel De La Torre, Chief of the International Bureau; and Kate Dumouchel, Office of General Counsel. Attending the meeting on behalf of SIA were Patricia Cooper and Sam Black for SIA, Daniel Mah for SES, Patrick Sullivan for Harris Corporation, Majid Khalilzadeh and Sue Crandall for Intelsat, and Carlos Nalda for Panasonic Avionics.

[1] SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers. Since its creation more than fifteen years ago, SIA advocates for the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business.

SIA Executive Members include: Artel, Inc.; The Boeing Company; The DIRECTV Group; EchoStar Satellite Services LLC; Harris CapRock Communications; Hughes Network Systems, LLC; Intelsat, S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; LightSquared; Lockheed Martin Corporation.; Northrop Grumman Corporation; Rockwell Collins Government Systems; SES S.A.; and Space Systems/Loral. SIA Associate Members include: AIS Engineering, Inc.; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DRS Technologies, Inc.; Encompass Government Solutions; Eutelsat, Inc.; Globecomm Systems, Inc.; Glowlink Communications Technology, Inc.; iDirect Government Technologies; Inmarsat, Inc.; ITT Exelis; Marshall Communications Corporation.; MTN Government Services; NewSat America, Inc.; O3b Networks; Orbital Sciences Corporation; Panasonic Avionics Corporation; Spacecom, Ltd.; Spacenet Inc.; TeleCommunication Systems, Inc.; Telesat Canada; TrustComm, Inc.; Ultisat, Inc.; ViaSat, Inc., and XTAR, LLC.

During the meeting, SIA emphasized that the 14.0-14.5 GHz band (the "Ku-band"), allocated to the Fixed Satellite Service ("FSS") on a primary basis, is a vital and growing part of the commercial satellite industry. Ku-band services today generate over $1 billion dollars of annual revenues in North America alone, and this number is projected to grow at over 5% annually through 2020. The Ku-band supports a diverse range of communications throughout the United States. More than 600,000 Very Small Aperture Terminals ("VSATs") have been deployed around the country for government and commercial communications networks, and is integral to United States government programs such as unmanned aerial vehicles ("UAVs"). The band is also used by national media companies for news gathering, televised sports and TV distribution. Continuing innovation in the band has resulted in smaller and smaller antennas, including many deployed on ships, vehicles and aircraft to provide broadband-on-the-go reliably and ubiquitously.

The SIA reiterated its concern that introduction of Qualcomm's proposed ATG operations into the Ku-band, even on a secondary basis, would put many services at risk and retard further innovation in the satellite sector. As SIA's previous filings have shown, Qualcomm's proposed ATG service will cause more interference into primary Ku-band satellites than is contemplated or allowed under the International Telecommunications Union ("ITU") rules for secondary services. SIA also believes that the ATG network will receive more interference from primary FSS services than feasible for operation.

First, there are currently at least 81 satellites in orbit today that are either licensed by the United States or authorized to serve U.S. customers, and many more are planned for launch in the near future. Into this already crowded spectral environment, Qualcomm proposes ATG operations based on unrealistic and erroneous assumptions about the characteristics of existing space station receivers, as demonstrated in SIA's previous filings in this proceeding. SIA explained that the impact of these mistaken assumptions will be even greater on the next generation of Ku-band satellites, which will employ multiple high-gain spot beam antennas for increased flexibility and spectral efficiency. These satellites will have more sensitive receivers that will be much more susceptible to interference from ATG transmitters. SIA intends to submit additional technical analysis to demonstrate this in the near future. The secondary status of the ATG transmitters will not provide adequate assurance against interference because it remains a difficult and time-intensive process to geolocate an interference source in order to shut it down, resulting in both ongoing service degradation and significant effort expended to give effect to FSS's primary status.

Second, SIA explained that Qualcomm's proposed secondary ATG operations would be vulnerable to destructive interference from primary satellite earth stations. In this respect, it is important to recognize that satellite earth stations in the 14.0-14.5 GHz band can be blanket-licensed and can be deployed anywhere at any time, which heightens the interference potential into ATG ground stations and aircraft. SIA's submissions have shown that the assumptions Qualcomm has made about satellite earth station transmit power levels are unrealistic and significantly underestimate the amount of interference that the ATG network would experience. Qualcomm appears to have predicated its ATG system's ability to withstand interference on the assumption that FSS earth stations will operate at less than the maximum power permitted for a primary service. This premise is

incorrect, as earth stations are routinely authorized to, and often do, operate at maximum permissible power levels. A secondary service must accept all harmful interference from a primary service and cannot expect or rely on the primary service operating at reduced power levels. In addition, Qualcomm's suggestion that it could relocate ATG base stations if they suffer interference is highly unrealistic. It is more likely that Qualcomm would instead seek protection of its secondary service once it acquires a significant user base. Again, such a scenario would be contrary to the Commission's policy for the band and would significantly harm the value of Ku-band spectrum for continued incumbent FSS use and innovation.

Finally, SIA noted that it may be possible for a terrestrial ATG network to share spectrum with other services in other frequency bands. For example, the network architectures and operational characteristics of certain terrestrial-based services that utilize more horizontal communications links may allow sharing with ATG operations that utilize more vertical communications links. In the Ku-band, however, skyward transmission paths, high satellite receiver sensitivity and high-power earth station uplink transmissions into ATG-equipped aircraft suggest that such shared use of the spectrum will not be viable.

For the above reasons, the Commission was urged to deny the petition and preserve the viability of the primary FSS allocation in the 14.0-14.5 GHz spectrum for current and future satellite operations.

A copy of this letter is being emailed to the Federal Communications Commission staff identified below. Please contact Patricia Cooper or Sam Black if you have any questions about this filing.

Respectfully submitted,

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cc (via email):

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